REMARKS

Initially, Applicants would like to thank the Examiner for the indication of allowability of claims.

Status of the Claims

Claims 1-18 were pending in the present application prior to amendment herein. Claims 1, 3-9, 11-16, 18 have been amended. Claims 19-20 have been newly presented for examination. Claims 1-20 are therefore currently pending.

Claim Amendments and New Claims

No new matter has been added to this application by the amendments made herein, with support being found in the specification, claims and figures as filed.

In view of the foregoing, the Applicant respectfully requests entry of this Amendment and consideration of the present application as amended herein.

Allowable Subject Matter

Claims 1-3 have been indicated as allowable. The current amendments to claims 1 and 3 contained herein do not introduce any new subject matter. The amendments to claim 1 are for formatting and/or to correct typographical errors. The amendment to claim 3 corrects the multiple format. In view of the foregoing, Applicants respectfully request that the Office enter the amendments to the claims and indicate allowability for the reasons the Office noted previously.

Rejections under 37 CFR 1.75(c)

Claims 4-14 were objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim can not depend from another multiple dependent

claim. As suggested in the Office Action, the multiple dependencies on multiple dependencies have been removed. Claims 4-14 now make reference to only a single, independent claim. In view of this amendment, the Applicant respectfully requests that the objections of claims 4-14 under 37 CFR 1.75(c) be withdrawn.

Rejections under 35 U.S.C. § 102

Claim 15 under Cairns

Claim 15 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,315,416 to Cairns. Considering the newly added limitations, Cairns does not contain all of the elements of claim 15 as currently amended.

Claim 15 is limited to junctions of substrates "wherein each…is a microfabricated chip prepared by a process which comprises dividing a microfabricated composite into a plurality of microfabricated chips; and the substrates were obtained by dividing the same microfabricated composite or by dividing microfabricated composites prepared by substantially identical procedures." Cairns, by contrast, does not disclose any such microfabrication elements.

Accordingly, claim 15 contains features independently patentable in light of Cairns. In view of the foregoing, the Applicants respectfully request that the rejection of claim 15 under 35 U.S.C. § 102(b) be withdrawn.

Claims 15-18 under Jovanovich

Claims 15-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication 2004/0017981 to Jovanovich et al.

Claim 15 is further limited to "an elongate component which passes through an interface between two substrates." Although the Office notes that Jovanovich teaches a junction comprising an elongate component which passes through an interface joining substrates (1081 & 1031), no such elongate component or pin is described in Jovanovich. Rather, Jovanovich merely discloses bringing the substrates against one another under

bias, with a gasket in between. An elongate component crossing the junction interface, an element of claim 15, is lacking in the flush arrangement of Jovanovich.

Claim 16 is limited to "two substrates, each of which has a pair of alignment features thereon, one of which has an elongate component extending from it and the other of which has a conduit within it." In the Rejection, the Office improperly equates the pins (999) of Jovanovich to *both* the limitations of claim 16, the elongate component extending from a substrate, as well as one component of the alignment pair. Claim 16 is limited to two separate features that are not disclosed in Jovanovich. Moreover, even if the pins are to simultaneously embody the conduit extending from the first substrate as well as one half of its alignment pair, the second substrate will thereby lack a complete pair of alignment features. Lastly, the pins cannot be alignment features for the purposes of claim 16, as they are not "in contact with the alignment jig."

Claim 17 is limited to "a microfluidic substrate…which has two parallel side faces each of which includes a groove, the grooves being separated from each other by a constant distance and preferably lying in the same plane." In the Rejection, the Office notes a microfluidic substrate (1091) of Jovanovich. This element (1091) is explicitly disclosed as a "tray," not the claimed substrate. In addition, the grooves of Jovanovich, capillaries, do not appear on the two parallel side faces as claimed. Lastly, these capillaries do not lie in the same plane, but instead are explicitly "at different layers of the substrate."

Claim 18 is dependent on claim 17 and is therefore patentable for the preceding reasons as well.

Claims 15-17 contain features independently patentable in light of Jovanovich, and claim 18 is dependent on claim 17. In view of the foregoing, the Applicant respectfully requests that the rejection of claims 15-18 under 35 U.S.C. § 102(b) be withdrawn.

Non-Obviousness of Claims

The Examiner has not rejected claims 15-18 as obvious over Jovanovich and/or Cairns. However, for the sake of completeness, Applicants submit that claims 15-18 are

non-obvious over the cited references. Applicants request consideration of the following and allowance of claims 15-18.

Claims 15-18 are limited to a microfabricated or microfluidic chip. Jovanovich, by contrast, instructs that it is an object of that invention "to connect capillary tubes and microscale devices with macroscale devices." Jovanovich thereby makes macroscopic, non-microfabricated or microfluidic components integral to its function. In this way, Jovanovich teaches away from the chip-centric assembly of claims 15-18. In addition, the cited embodiments of Jovanovich all suggest simply bringing capillaries flush with one another, rather than utilizing elongate components. The only elements Jovanovich discloses that cross the interface plane, the pins (999) of Figure 25, are taught as being merely for alignment purposes. It would not be obvious to one skilled in the art to modify the invention of Jovanovich to one utilizing elongate components while limited to microfabricated or microfluidic chips.

Cairns discloses a fully three-dimensional structure composed of a "hollow body" with an "internal chamber;" like Jovanovich, such an arrangement teaches away from microfabricated or microfluidic chip assemblies. Moreover, the mating elements of Cairns all focus on preventing outside contamination, being directed to use underwater. It would not be obvious to one skilled in the art to adapt a separable plug with robust features—tailored specifically for "hostile environments"—to microfabricated chip applications.

Conclusion

The Applicant believes that the present application is now in condition for allowance, and a Notice of Allowance is respectfully requested. If, however, there remain any issues which can be addressed by telephone, the Examiner is encouraged to contact the undersigned at the telephone number listed below.

Please charge any fees due in connection with this Amendment or credit any overpayment to Deposit Account No. 19-2090.

Respectfully submitted,

SHELDON MAK ROSE & ANDERSON

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